

**NUS School of Computing**  
**Master of Science in Digital Financial Technology (MSc DFinTech)**  
*(Effective from AY2021/2022)*

**A. Essential Modules (28MC)**

1. FT5001 (2MC) Fintech Innovations for Consumers
2. FT5002 (2MC) Digital Transformation at Financial Institutions
3. FT5003 (2MC) Blockchain Innovations
4. FT5004 (2MC) Programming for Blockchain Applications
5. FT5005 (4MC) Machine Learning for Finance
6. BMF5321 (4MC) Financial Modelling
7. BMF5322D (4MC) Introduction of Finance
8. IT5001 (4MC) Software Development Fundamentals
9. IT5003 (4MC) Data Structures and Algorithms

Students who have taken modules similar to BMF5322D, IT5001, and IT5003 can replace these modules by taking the following replacement modules\*:

10. IT5004 Enterprise Systems Architecture Fundamentals,
11. IT5005 Artificial Intelligence, or
12. IT5006 Fundamentals of Data Analytics.

**\*Note:** Students who wish to take replacement modules are required to submit their request to the School of Computing for prior approval.

**B. Elective Modules (12MC)**

Students are strongly encouraged to take the elective modules from one vertical track, but are not restricted to do so.

**Vertical #1. Computing Technologies**

1. CS5224 Cloud Computing
2. CS5231 Systems Security
3. CS5321 Network Security
4. CS5331 Web Security
5. CS5421 Database Applications Design and Tuning
6. CS5439 Software Security
7. IS4234 Compliance and Regulation Technology
8. IS5008 Technology Risk and Cyber Resilience
9. IS5009 Topics in Financial Technology Solutions

**Vertical #2. Financial Data Analytics and Intelligence**

1. CS5242 Neural Networks and Deep Learning
2. CS5246 Text Processing on the Web
3. CS5339 Theory and Algorithms for Machine Learning
4. CS5344 Big-Data Analytics Technology
5. CS5446 AI Planning and Decision Making
6. IS5006 Intelligence Systems Deployment
7. IS5126 Hands-on with Applied Analytics
8. IS5152 Data-Driven Decision Making

**Vertical #3. Digital Financial Transactions and Risk Management**

1. BMF5333 Options and Fixed Income
2. BMF5342 Technological Disruptions in Finance and Data Analytics
3. BMF5346 Venture Capital and Private Equity

4. BMF5353 Applied Investment Strategies
5. BMF5355 Financial Institutions, Markets, Systems and Technology
6. BMF5356 Applied Financial Risk Management
7. BT4013 Analytics for Capital Market Trading and Investment
8. BT4016 Risk Analytics for Financial Services
9. CS5233 Simulation and Modelling Techniques

### **C. Capstone Project (12MC)**

FT5007 FinTech Capstone Project

***\*Important: Modules in this list may be subject to change as decided by the Departments.***